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USER'S GROUP

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Editorial

I said last month that the months are flying by. Well, this one sure has.

As I was carrying a fair amount of material over from the previous issue, I thought this was a good opportunity to catch up a month. (*If you hadn't noticed, I was a month behind*).

Most of the Groups have now had their elections for the next twelve months, and they all had great difficulty in filling committee positions. This is a task which only requires a short time each month, but nobody appears willing to make the effort to give something back. Usually someone is "dobbed in" to take a position, but this should not be necessary.

The usual excuse is that they don't know enough about the C-64 to stand for these positions. The task of committee is not to know about the machine, but to arrange the running of the Chapter, and arranging a suitable syllabus for forthcoming meetings. So how about "having a go" and not leaving the running of the Chapters up to the usual few. Give a little, instead of 'take, take, take!!!'

At the Waverley meeting in July, we will be continuing our discussions on Basic with David Mathie, so if you can be there, you would be most welcome.

The meeting planned for the Doncaster Chapter in August, will be discussing Modems and software packages that allow you to 'upload and download' files from other machines. A demonstration will be held involving the Australian Beginning, if we can obtain use of the phone lines for the night. If this is not possible, we will connect two C-64's together and show 'inhouse' transfer of data information.

As reported last month, Acme Software have a Home Budget program available. On reports this program is selling well, as no product I have seen has the versatility of this package. Also the price is a bargain against some similar from overseas. So go and have a demo, and a play around; you will be impressed.

Also in this issue, we continue with the series from Paul Blair, on the 1541 Disk Drives. As this series is enlightening for new owners, and written in simple language for anyone to learn, or others to brush up their techniques. This series should have been written into the User Manuals that come with the drives, as they go into more detail than the poorly written manuals.

As a few 'music freaks' have asked for the listing for the Note Frequency Table published last month, this is included for those who wish to play around with this program.

You will note that the listing does not follow the normal Commodore printout, with reversed graphics denoting cursor characters. This is a special program written by Greg Perry from Brisbane, who is looking for some common standards for printing these characters. As it appears to me, the listing is easier to follow, and your comments would be appreciated about this convention.

Thank you again for all contributions, as it makes life a bit easier with lots of programs to be able to organise a newsletter which is of interest to all.

Frank Martin. EDITOR.

Tape Drive Head Alignment

You don't have to return your Commodore Datasette to the dealer if you suspect the head is out of alignment. The alignment screw (on the older square models) is in the hole under the label), and on the newer rounded model is in the hole in the middle behind the keys.

Alignment is adjusted while the play button is held down. All you need is a Phillips-head screwdriver and several commercially produced tapes.

1. LOAD a tape.
2. PRINT PEEK (630),ST
3. Write down the result of 2.
4. If the result is not two zeros, turn the head-adjusting screw, slightly counter-clockwise — about 5–10 degrees.
5. Write down which way you turned the screw.
6. Do steps 1 to 3 again.
7. If your PEEK gives a higher number then you have turned the screw the wrong way.
8. Turn the screwdriver in small steps repeating steps 1 to 3 until the PEEK gives you 0 0.
9. Finally LOAD 3 or 4 commercial and some of your good tapes to ensure the results are always 0 0.

Your tape head is then aligned to read the tapes you need.

Wayne Johnson

Starting with Disk Drives

DISK BASIC

In the last article, we talked about computer Basic and what I called Disk Basic, then we had a look to see what a diskette really is. Well sort of. To press on . . . .

The operating system in any Commodore single disk drive is about as complex as the operating system in the Commodore 64. There is about 16K of program permanently in each, which makes the disk drive a very powerful system indeed. But unless you know how to get to the system in the disk unit, you will never have much fun with your machine.

The commands provided for your use fall into two groups — those that are built into the C-64 (which are normally used for passing information back and forth between computer and disk drive) and those that are in the disk drive, and are often termed ‘housekeeping commands’. The groups are like this:—

C-64 COMMANDS

CLOSE
GET#
INPUT#
LOAD
OPEN
PRINT#
SAVE
VERIFY

DISK DRIVE COMMANDS

COPY
DUPLICATE
INITIALIZE
NEW (not to be confused with NEW)
RENAME
SCRATCH
VALIDATE

These commands will be explained as we go through these articles.

The first thing that you have to learn is how to talk to your disk drives. The trick is to think of disk access like a conversation that you and I might hold. We would greet each other, say what we want to say, then bid farewell. All the time, we would be watching each other — feedback from any conversation is a vital part of the intelligence loop that we all use. Disk use is rather like this, except that you need to stick with some rules of conversation.

The rules of polite conversation also apply to your disk drives. The salutation is all important. To do this, you need to use the correct syntax. Commodore has provided the facility to set up conversation ‘lines’ by opening channels to peripheral devices such as printers, disk units, cassettes and so on. You can have a number of lines open at one time, but the important line (or channel) with disk drives is what is termed the ‘error channel’. Channel 15 has been set aside specifically as the error line, so to get the conversation going, we do this:—

```
OPEN X,8,15
```

What does this do? The Commodore syntax is unique, and very easy to use. ‘X’ is the file number of your choice, and can be any number 1 — 255, but for simplicity is usually 1 — 15. The device number assigned to disk drives by Commodore is 8, so we must mention this. The last number is the channel number to use. To send commands to the drive, we will use Channel 15. You can type this command in direct mode (straight from the keyboard) or in a program. Remember it — you will doubtless have many occasions to use it.

The three parameters used here have official names. ‘X’ is the Logical File Number, ‘8’ represents the Device Address, and ‘15’ is termed the Secondary Address. All are important, but don’t worry too much about them for now. I mention them here only to provide some sort of link with the terminology used in handbooks and magazine articles.

Having struck up a conversation, we now need to say something. What will we say? Let’s put the disk drive read/write head over the directory track, ready for some action. The Disk Basic Keyword that does this is built into the disk drive — *‘INITIALIZE’*, and may be followed by the drive number if more than one drive is on the line. The keyword is a bit long-winded. Luckily the disk drive can figure out what to do from the first letter (‘I’ in this case), so we can send the command with the minimum of fuss. The conversational routine is to send the command by ‘printing’ to the channel we have opened. PRINT#n is the syntax to use, so if we opened file 7, we have:—

```
OPEN 7,8,15     and now
PRINT#7,“I0”
```

Notice that the command is in quotes, conversation-style. To finish off our conversation, we say ‘bye with

```
CLOSE 15
```

That didn’t hurt too much — but it didn’t do an awful lot either, and will only work on a disk that has been formatted.

That’s next article. But you now know how to strike up a conversation with your drive. Welcome to the Midnight Mutterer’s Club.

Proofreader Program for Tape Drives

The Proofreader program used by Compute Gazette! for entry of Basic programs normally occupies part of the cassette buffer. If you only use the Disc Drive, then this is not a problem.

However, if tape is your means of storage, then once you save or load a program from tape, the Proofreader is erased. This means that you cannot stop in the middle of a session entering a program, save it, then come back later. The reason is that whichever program is loaded second will erase the first program.

There is a solution to this problem, and that is to move the Proofreader program to the area in memory above Basic. The Proofreader program can be loaded first, and run, which will put the machine code above Basic out of the way. The Proofreader program then erases itself and you can load your Basic program and continue entering it.

David McQuie

```
100 PRINT"{CLR}PLEASE WAIT...":FORI=50038TO50170:READA:CK=CK+A:POKEI,A:NEXT
110 IF CK<>18499 THEN PRINT"DATA ERROR":END
120 SYS50038:PRINT"{CLR}{C/DN}{C/DN}PROOFREADER ACTIVATED.":NEW
886 DATA173,036,003,201,150,208
892 DATA001,096,141,151,003,173
898 DATA037,003,141,152,195,169
904 DATA150,141,036,003,169,195
910 DATA141,037,003,169,000,133
916 DATA254,096,032,087,241,133
922 DATA251,134,252,132,253,008
928 DATA201,013,240,017,201,032
934 DATA240,005,024,101,254,133
940 DATA254,165,251,166,252,164
946 DATA253,040,096,169,013,032
952 DATA210,255,165,214,141,251
958 DATA003,206,251,003,169,000
964 DATA133,216,169,019,032,210
970 DATA255,169,018,032,210,255
976 DATA169,058,032,210,255,166
982 DATA254,169,000,133,254,172
988 DATA151,195,192,087,208,006
994 DATA032,205,189,076,235,195
1000 DATA032,205,221,169,032,032
1006 DATA210,255,032,210,255,173
1012 DATA251,003,133,214,076,173
1018 DATA195
```

Data Creation Program

The data creation program is a modified version of one that appeared in *Your Computer*.

The original program created nine lines of data, each line holding up to 16 data items. This format makes it very difficult to type the data in from a listing, as the data numbers are spread randomly across the screen.

Improving that situation entailed padding the one and two digit data numbers to three digits long so that all data numbers line up vertically. Also by limiting the number of data points to seven per statement only one line is occupied, which also improves readability.

The original program halted after entering one set of statements. This version runs again automatically, and will stop when a negative line number is entered.

Sixty-three bytes of data may be entered each time, the program will show where it is up to in memory each time data statements are entered.

The simplest way to use this program is to add it to the beginning of your program, run the program to create your data statements, and then delete it. *David McQuie*

```
1 POKE53280,8:POKE53281,6:CLR:PRINT"{CLR}"
2 INPUT"{WHT}{C/DN}FIRST LINE NUMBER";LN
3 IFLN<30ORLN>63983 THEN END
4 INPUT"START ADDRESS     ";S
5 INPUT"FINISH ADDRESS    ";F
6 IF S>FTHENPRINT"{RVON}{C/DN}? ADDRESS ERROR{C/DN}":GOTO4
7 IF F-S > 63 THEN PRINT"MAX. DATA IS 63 BYTES":GOTO 4
8 PRINT"{CLR}{C/DN}"
9 PRINTLN;"DATA ";:C=C+1
10 FOR Y = S TO S+6
11 IF Y>F THEN PRINT"{C/LF} ":GOTO 19
12 P=PEEK(Y): P$ = STR$(P)
13 P$ = RIGHT$(P$,(LEN(P$)-1)):P$=RIGHT$("00"+P$,3)
14 IF Y<>S+6 THEN P$=P$+","
15 PRINT P$;: NEXT Y: PRINT
16 S = S+7: LN = LN + 5
17 IF S>F OR C = 9 THEN 19
18 GOTO 9
19 PRINT "GOTO 2":PRINT" LAST ADDRESS ";F
20 FOR Y = 1 TO C+1
21 POKE 630 + Y,13: NEXT Y
22 POKE 198,C+1: PRINT"{HOME}";:END
```

"HEY GREG WHEN YOU'RE DONE THERE CAN YOU CHISEL ME A COUPLE OF DISK DRIVES.."

Colour Ram Tricks

Try this simple trick to set the Colour Ram of the C-64 screen.

10 POKE 53281,C (The colour you need for your characters)
20 PRINT "(CLEAR)"
30 POKE 53281,B (The Background Colour)
40 POKE ANY CHARACTER(S) YOU WANT, AND THEY WILL APPEAR IN COLOUR C.

Marion Black

```
100 REM  CALC NOTE FREQUENCIES FOR COMMODORE 64
105 REM  (C) GREG PERRY, BRISBANE 1983
110 LN$="[CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC]"
115 SP$="[SPACE37]"
120 PRINT "[CLR,SPACE]CALCULATE[SPACE]NOTE[SPACE]FREQUENCIES[SPACE]FOR[SPAC
    E]C64"
130 PRINT "[DOWN]OPTIONS[SPACE2]FOR[SPACE]CLOCK[SPACE]FREQUENCY"
140 PRINT "[SPACE9]1:[SPACE]US[SPACE5](NTSC)[SPACE]AT[SPACE]1.02[SPACE]MHZ"

150 PRINT "[SPACE9]2:[SPACE]AUST[SPACE3](PAL)[SPACE2]AT[SPACE]0.98[SPACE]MH
    Z"
```

```
160 PRINT "[SPACE5]OR[SPACE2]3:[SPACE]THEORY[SPACE8]AT[SPACE]1.00[SPACE]MHZ
    [DOWN2]"
170 INPUT "WHICH";A%
180 IF A%<1 OR A%>3 THEN 120
190 IF A%=1 THEN TP$="NTSC[SPACE]AT[SPACE]1.02[SPACE]MHZ":FC=1.02273
200 IF A%=2 THEN TP$="PAL[SPACE2]AT[SPACE]0.98[SPACE]MHZ":FC=0.98525
210 IF A%=3 THEN TP$="THEORY[SPACE]AT[SPACE]1.00[SPACE]MHZ":FC=1.00
220 TF=440: INPUT "TUNE[SPACE]TO[SPACE]A=440[SPACE3]Y[LEFT3]";A$: IF A$="Y"
    THEN 250
230 TF=440: INPUT "[SPACE]FREQUENCY[SPACE]FOR[SPACE]A-4[SPACE]";TF
240 IF TF<400 OR TF>500 THEN  PRINT "ERROR": GOTO 230
250 H$="[CLR,SPACE3]FREQUENCY[SPACE]CALC[SPACE]FOR[SPACE]"+TP$+ CHR$(13)+LN
    $: PRINT H$
260 PRINT "[DOWN4]CHECK[SPACE]PRINTER,[SPACE]POWER[SPACE]AND[SPACE]PAPER"
270 PRINT "[DOWN,SPACE]PRESS[SPACE]RETURN[SPACE]WHEN[SPACE]READY"
280 GET IN$: IF IN$<> CHR$(13) THEN 280
290 OPEN 4,4: PRINT#4,"[CLR]"
300 PRINT#4, CHR$(1)"[SPACE5]COMMODORE[SPACE]64[SPACE2]TABLE[SPACE]:"+ STR$
    (A%): PRINT#4
310 PRINT#4, SPC(10)"MUSICAL[SPACE]NOTE[SPACE]VALUES[SPACE]FOR[SPACE]";TP$;
    "[SPACE]STANDARD[SPACE]SOUND"
320 OPEN 1,4,1: OPEN 2,4,2
330 A$="AAAA[SPACE]9999.99[SPACE2]99999[SPACE2]999[SPACE2]999"
340 A$="[SPACE6]"+A$+"[SPACE,RVS]:[SPACE]"+A$: PRINT#2,A$
350 B$="NOTE[SPACE3]FREQ.[SPACE2]NUMBER[SPACE2]FH[SPACE3]FL":B$=B$+"[SPACE]
    :[SPACE]"+B$
360 PRINT#4: PRINT#4, SPC(6);B$
370 C$="[SPACE5]HERTZ[SPACE18]":C$=C$+"[SPACE3]"+C$: PRINT#4, SPC(8);C$
380 PRINT#4, SPC(6); CHR$(1)"-----------------------------"
390 DIM N$(12),N1$(200),F(200),F1(200),FH(200),FL(200)
400 PRINT H$: PRINT "NOTE","FREQ[SPACE]HZ","FN[SPACE]LOW","FN[SPACE]HIGH":
    PRINT "[DOWN12]"LN$
410 PRINT "[DOWN,SPACE]PRESS[SPACE]'S'[SPACE]TO[SPACE]STOP[SPACE]OR[SPACE]S
    TART"
420 FOR N=1 TO 12: READ N$(N): NEXT
430 DATA C,C#,D,D#,E,F,F#,G,G#,A,A#,B
440 REM  CALCULATE 64 FREQ
450 REM  FOR ABSOLUTE PITCH TF =440 HZ
460 F=TF/2↑(1/12)↑58:CF=2↑24/(FC*10↑6)
470 FOR O=0 TO 8
480 FOR I=1 TO 12:K=O*12+I
490 F=F*2↑(1/12)
500 N1$(K)=N$(I)+"-"+ RIGHT$( STR$(O),1):F(K)=INT (F*100+.5)/100
510 N=INT (F*CF+.5)
520 FH=INT (N/256): IF FH>255 THEN F1(K)=N:FH(K)=5555:FL(K)=5555: GOTO 600
530 FL=N-FH*256
540 F1(K)=N:FH(K)=FH:FL(K)=FL
550 POKE 214,7: PRINT : PRINT SP$: POKE 214,7: PRINT : PRINT N1$(K),F(K),FH
    (K),FL(K)
560 GET IN$: IF IN$<>"S" THEN 580
570 GET IN$: IF IN$<>"S" THEN 570
580 NEXT : NEXT
590 NEXT
600 PRINT H$: PRINT "[DOWN5,SPACE]WAIT[SPACE]:[SPACE]PRINTING[SPACE]IN[SPAC
    E]PROGRESS"
610 F$=CHR$(29): FOR I=1 TO K/2:J=I+48
620 PRINT#1,N1$(I);F$;F(I),F1(I),FH(I),FL(I),
630 PRINT#1,N1$(J);F$;F(J),F1(J),FH(J),FL(J)
640 NEXT
650 PRINT#4, SPC(6); CHR$(1)"[CCCCCCCCCCCCCCCCCCCCCCCCCCCCC]"
660 PRINT#4,"[HOME]"
670 CLOSE 4,1,2
```

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